

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAY J. STURGES

Appeal No. 1997-2382
Application 08/287,064¹

ON BRIEF

Before JERRY SMITH, FLEMING and FRAHM, ***Administrative Patent Judges.***

¹ Application for patent filed August 8, 1994. According to Appellant, the application is a continuation of Application 07/663,594, filed March 1, 1991, abandoned.

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FLEMING, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 2, 4 through 12, and 14 through 20, all of the claims pending in the present application. Claims 3 and 13 have been cancelled.

The invention relates to a method and apparatus for creating, interpreting and executing an interpretive program language. Specifically, the present invention eliminates the transposition of programming language into pseudo code.

Independent claim 1 is reproduced as follows:

1. A programmable interpreter comprising:

means for receiving a source code command input stream, said source code command input stream including a literal source code macroinstruction;

means for directly encoding said literal source code macroinstruction into a corresponding subroutine address without performing an intermediate step of extracting an opcode of said macroinstruction,

said encoding means including means for generating an execution stream for storage of said subroutine address and

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associated arguments, wherein said arguments are pushed into the execution stream in reverse order; and

means for executing a subroutine identified by said subroutine address.

The Examiner relies on the following references:

David Gries, ***Compiler Construction for Digital Computers***, 245-72 (John Wiley & Sons, Inc., 1971)

Ellis Horowitz et al. (Horowitz), ***Fundamentals of Data Structures in Pascal***, 65-93 (2d ed., Computer Science Press, Inc., 1987)

Claims 1, 2, 4 through 12, and 14 through 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Gries and Horowitz.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the brief and answer for the respective details thereof.

OPINION

We will not sustain the rejection of claims 1, 2, 4 through 12, and 14 through 20 under 35 U.S.C. § 103.

The Examiner has failed to set forth a ***prima facie*** case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by implications contained in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention." ***Para-Ordnance***

Mfg. v. SGS Importers Int'l, Inc., 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), ***cert. denied***, 519 U.S. 822 (1996) ***citing W. L. Gore & Assoc., Inc. v. Garlock, Inc.***, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), ***cert. denied***, 469 U.S. 851 (1984).

On pages 5 through 7 of the brief, Appellant argues that Gries does not teach or motivate one of ordinary skill in the art to provide the direct encoding of source code into a subroutine address without extracting an op code. In particu-

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lar, Appellant argues that Gries does not disclose or suggest the claimed language of directly encoding a literal source code macroinstruction into a corresponding subroutine address without performing an intermediate step of extracting an opcode of said macroinstruction as it is set forth in independent claims 1 and 11.

On page 4 of the answer, the Examiner states that the basis for the rejection was set forth in paragraphs 4 through 12 of the office action mailed November 2, 1995 (Paper No. 15). Turning to Paper No. 15, we note that the Examiner argues that Gries teaches directly encoding the source code into a subroutine address without extracting an opcode. The Examiner points to

Gries' page 245, first paragraph, and page 248, "Evaluating Arithmetic Expressions" section. Turning to page 245 of Gries, we fail to find that Gries teaches a means for directly encoding said literal source code macroinstruction into a corresponding subroutine address without performing an inter-

mediate step of extracting an op code of said macroinstruction. Gries teaches on page 245 translating a source code into an internal form which is easier to handle mechanically. Gries further discloses that in most internal forms, operators appear essentially in the order in which they are to be executed. We fail to find from this disclosure that Gries teaches or suggests directly encoding a literal source code macroinstruction into a corresponding sub- routine address. Turning to page 248 of Gries, we fail to find that Gries discloses or suggests directly encoding a literal source code macroinstruction into a corresponding subroutine address as well. Gries' algorithm for executing an arithmetic expression into Polish notation is not the same as a subroutine address and is not the same as a macroinstruction.

Appellant argues on pages 7 and 8 of the brief that neither Gries nor Horowitz, singly or in combination, teaches or motivates one of ordinary skill in the art to create an execution

stream in reverse order as claimed. Appellant further argues that neither Horowitz nor Gries provides a suggestion for modifying Gries to provide a stack that is removed in reverse order in order to provide direct encoding of a macroinstruction into a subroutine address, or the generation of an execution stream for storing subroutine addresses and associated arguments as claimed.

The Federal Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." ***In re Fritch***, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), ***citing In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Upon our review of Horowitz and Gries, we fail to find that this prior art suggests the modification of providing direct encoding of a macroinstruction into a subroutine address, or the generation of an execution stream for storing subroutine addresses and associated arguments as set forth in Appellant's claims.

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In view of the foregoing, we have not sustained the rejection of claims 1, 2, 4 through 12, and 14 through 20 under 35 U.S.C. § 103. Accordingly, the Examiner's decision is reversed.

REVERSED

	JERRY SMITH)	
	Administrative Patent Judge)	
)	
)	
)	BOARD OF
PATENT)	
	MICHAEL R. FLEMING)	APPEALS AND
	Administrative Patent Judge)	
INTERFERENCES)	
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	ERIC FRAHM)	
	Administrative Patent Judge)	

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